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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,857	01/25/2006	Byoung-il Kang	NEK-0014	7460
23413 7590 02/20/2009 CANTOR COLBURN, LLP 20 Church Street 22nd Floor Hartford, CT 06103				
EXAMINER				
TESKIN, FRED M				
ART UNIT		PAPER NUMBER		
1796				
NOTIFICATION DATE		DELIVERY MODE		
02/20/2009		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

usptopatentmail@cantorcolburn.com

Office Action Summary

Application No.

10/565,857

Applicant(s)

KANG ET AL.

Examiner

Fred M. Teskin

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/86)
Paper No(s)/Mail Date 20060530
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

Detailed Action

This Office action is responsive to application filed January 25, 2006. Claims 1-10 are currently pending and under examination.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4 and 6-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Minematsu et al (US 5430101).

Rubber-modified styrenic blends meeting the compositional and property ("low-gloss") limitations of the rejected claims have been described by Minematsu et al, see Table 1, Example Nos. 4, 8, 9, 11 and Table 2, Comp. Example Nos. 4 and 8-10. Considering in particular Example No. 4, it is noted the described composition comprises 7 parts (by weight) of Copolymer B-3 and 3 parts of Polymer C-2 admixed with 30 parts of Rubber-modified thermoplastic resin A-1 and 60 parts of copolymer A-3. Being respectively described as an ABS graft copolymer and an acrylonitrile-styrene copolymer (see col. 7, lines 18-20 and 43-45), A-1 and A-3 are seen to correspond to applicants' (A) and (B) as claimed. Further, B-3 comprises copolymerized acrylonitrile, styrene and glycidyl methacrylate (30/69/1 parts; see col. 8, lines 26-30) and as such, corresponds to applicants' (C), taking into account applicants' definition of "polyolefin

copolymer" as inclusive of styrene copolymers with compounds such as glycidyl methacrylate and acrylonitrile (*cf.*, Specification page 6) . C-2 refers to a copolymer of acrylonitrile, styrene and methacrylic acid (30/60/10 parts; see col. 8, lines 50-53). Based on the stated quantity of methacrylic acid and complete polymerization conditions (per Preparation Example B-1, see *Id.*, lines 5-19), C-2 is considered to intrinsically possess a number of carboxyl groups per molecule requisite to applicants' (D) as per claims 1 and 8. As to gloss, Example No. 4 reports a value of 15% (@ 60°; see Table 1 and col. 10, lines 45-50) which, being almost identical to gloss values reported for applicants' compositions (*cf.*, Specification Table 1), is seen to meet the "low-gloss" limitation of claim 1.

Regarding claim 4, patentees' Example No. 8 describes a composition comprising 3 parts of Copolymer B-1 together with the same species of resins A (A1 and A-3) as in aforementioned Example No. 4. B-1 refers to a copolymer prepared from 30 parts of acrylonitrile, 60 parts of styrene and 10 parts of glycidyl methacrylate, as in the patentees' preparation method B-1, which includes an aging step to complete the polymerization (see col. 8, lines 20-25). Based on the stated quantity of glycidyl methacrylate and complete polymerization conditions, B-1 is considered to inherently meet the limitation of claim 4 as to number of glycidyl methacrylate functional groups per molecule.

Regarding claims 3, 7, 9 and 10: the recited limitations directed to polyolefin copolymer (C) or styrene polymer (D) do not require the additive so limited be present in the composition being claimed - i.e., (C) and (D) remain alternative selections as per

claim 1. In consequence, claims 3, 9 and 10 are readable on a composition in which styrene polymer (D) is selected as the sole low-gloss additive while claim 7 embraces compositions in which polyolefin copolymer (C), as defined in claim 1, is the sole such additive. As such, claims 3, 9 and 10 are anticipated by patentees' Comp. Example No. 9, which comprises 10 parts of Polymer C-2 (corresponding to applicants' (D)), and claim 7 by Comp. Example No. 8, which comprises 5 parts of Copolymer B-2 (corresponding to applicants' (C)).

Claims 1, 2, 4 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by either of JP 3-095252 and JP 4-353552 (all references thereto being to the corresponding English language translations furnished herewith).

Thermoplastic resin compositions meeting the compositional limitations of claims 1, 2, 4 and 5 are described in each of the cited documents. See in particular JP '252, Examples 2-6 in Tables 1 and 2 (page 18) and JP '552, Comparative Example 5 and Working Example 5 of Table-2 (page 18). In JP '252, each of the noted examples describes a thermoplastic resin composition in which 3, 5 or 10 weight parts of B-1 or B-2 is combined with ABS-1 or ABS-2 and maleimide copolymer C-1 or C-2 in proportions within the weight part ranges claimed for applicants' (A) and (B). Said C-1 and C-2 qualify as applicants' (B) in that each contains copolymerized styrene monomer (see pages 14-15). The ABS-1 and ABS-2 are rubber-reinforced graft copolymers corresponding to applicants' (A) (see pages 12-13); and B-1 and B-2 refer to ternary and binary copolymers of ethylene-glycidyl methacrylate-vinyl acetate and ethylene-

glycidyl methacrylate, at compositional ratios of 90-7-3 and 90-10, respectively (see page 14). As such, B-1 and B-2 each contain glycidyl methacrylate functional groups, per applicants' (C) as claimed, as well as ethylene as main chain olefin, per claim 5. And from the stated compositional ratios, a number of said functional groups per molecule within the range of claim 4 may be plausibly inferred.

Regarding JP '552, note that Comparative Example 5 describes a composition in which 5 weight parts of an olefin copolymer with epoxy (C-1) is combined with 40 weight parts of graft copolymer A-2-1-1 and 60 weight parts of copolymer A-2-2; while in Example 5, 3 weight parts of the olefin copolymer with epoxy (C-2) is combined with 30 weight parts of copolymer A-2-1-1 and 60 weight parts of copolymer A-2-1-2. A-2-1-1 and A-2-1-2 identify an ABS graft copolymer latex and an AES graft copolymer, respectively (see [0041] and [0043]), which correspond to applicants' (A) and (B), while A-2-2 is an acrylonitrile-styrene copolymer (see [0044]) which also corresponds to applicants' (B) insofar as the term "copolymer ... harboring styrene" (claim 1, final line) means a copolymer containing enchaind styrene units. As to applicants' (C), the disclosed olefin copolymers C-1 and C-2 are ternary and binary copolymers of ethylene-glycidyl methacrylate-vinyl acetate and ethylene-glycidyl methacrylate (see [0050]), at compositional ratios of 90-7-3 and 90-10, respectively. As such, C-1 and C-2 each contain glycidyl methacrylate functional groups, per applicants' (C) as claimed, as well as ethylene as main chain olefin, per claim 5. Further, the stated compositional ratios are seen to provide a plausible basis to infer that C-1 and C-2 intrinsically contain a number of said functional groups per molecule within the range specified in claim 4.

As to the "low-gloss" property in claim 1, examiner acknowledges that this property improvement may not be explicitly disclosed by JP '252 or JP '552. However, the references teach all of the claimed compositional components. Therefore, the claimed improvement would be implicitly achieved by the disclosed compositions with all the claimed components. Where the prior art teaches the identical chemical composition as claimed, the properties applicants disclose and/or claim are necessarily present therein. *In Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). If it is applicants' position that this would not be the case: (1) evidence would need to be provided to support the applicants' position and (2) it would be the Office's position that there is no adequate teaching as to how to obtain the claimed gloss reduction with only the claimed components.

No claims are in condition for allowance at this time.

Any inquiry concerning this communication should be directed to Examiner F. M. Teskin whose telephone number is (571) 272-1116. The examiner can normally be reached on Monday through Thursday from 7:00 AM - 4:30 PM, and can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached on (571) 272-1114. The appropriate fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Fred M Teskin/

Primary Examiner, Art Unit 1796

FMTeskin/02-13-09